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10/772,361	02/06/2004	Tsuneori Soma	03500.017891.	5039

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EXAMINER	
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ART UNIT	PAPER NUMBER
2861	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,361	SOMA, TSUNENORI	
	Examiner	Art Unit	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-17 and 20-25* is/are rejected.

7)☒ Claim(s) *6,18 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

NON-FINAL REJECTION

The prior art references newly found necessitated a new ground of rejection is below:

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 11-12 are rejected under 35 USC 102 (e) as being anticipated by Siwinski et al (US 6,938,976).

Note: The method steps are inherently taught in the apparatus device/limitations in the rejections as follow:

Siwinski et al discloses in Figures 1-2 an ink jet printer comprising:

- a liquid ejection section (22) having a plurality of sets of inherent liquid ejecting nozzle adapted to eject liquid onto a medium (24, Figure 1), a liquid containing section inside the printhead (22) (not shown) communicating with the liquid ejecting nozzle and a supply port for supplying liquid to the liquid containing section;
- a liquid supply section (14a-14d) having a liquid supply member arranged therein to store liquid to be applied and adapted to supply liquid to said liquid containing sections by way of the supply ports;
- an information recording body (55a-55d, Figure 2) arranged at the liquid ejection section

and/or the liquid supply member of the liquid supply section (14a-14d);

- an information reading device (50) adapted to read information recorded in the information recording body (55a-55d);

- wherein said liquid supply section has a plurality of syringes (14a-14d, Figure 2) and a plurality of drive sections; and

- wherein the supply ports of said liquid ejection section (14a-14d) are arranged on a plane, see Figure 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7-9, 11-17, 20-23 and 25 are rejected under 35 USC 103 (a) as being unpatentable over Ayata et al. (US Pat. 4,463,359) in view of Siwinski et al (US 6,938,976).

Note: The method steps are inherently taught in the apparatus device/limitations in the rejections as follow:

Ayata et al. disclose in Figures 1, 12A-12B, 14-17, 19-21, 33-35 an ink jet printer comprising :

- a liquid ejection section having a plurality of sets of a liquid ejecting nozzle (OF, Figures 1 and 12B) adapted to eject liquid onto a medium (PP) (Figures 1 and 12B);

- a liquid containing section (JB1-JB9) communicating with the liquid ejecting nozzle

and a supply port (IS) for supplying liquid to the liquid containing section (JB1-JB9) (Figures 12B, 15-17 and 20);

- a liquid supply section (IT, OP) having a liquid supply member (IT) arranged therein to store liquid to be applied and adapted to supply liquid to said liquid containing sections (JB1-JB9) by way of the supply ports (IS) (Figures 12B, 15-17 and 20);

- wherein said liquid supply section (IT, OP) has a plurality of syringes (OP1-OPn) and a plurality of drive sections (D1-D56) (Figures 20-21);

- wherein the supply ports (IS) of said liquid ejection section are arranged on a plane (Figures 14-15 and 17);

- wherein said plurality of syringes (OP1-Opn) of the liquid supply section and said plurality of supply ports (IS) of the liquid ejection section are arranged in rows and columns and the pitch of arrangement of said plurality of syringes and that of said plurality of supply ports correspond to each other (Figures 14-7);

- wherein said liquid supply member (IT) comprises a plurality of well plates (ITC, ITM, ITY), each carrying a plurality of wells formed therein, that can store different types (cyan, magenta, yellow) of liquid (Figures 12A-12B);

- wherein said liquid containing sections (JB1-JB9) and said nozzles of the liquid ejection section are integrally formed and said plurality of sets are partly of wells formed therein, that can store different types of liquid and each of replaceable (Figures 14-17);

- means (CC) for controlling the amount of liquid remaining in said liquid containing sections;

- wherein said information recording body (CS) has bar codes (Figure 12B);

- wherein said liquid ejection section (LZP) has an ink-jet application means (H1-H7) and/or electrothermal transducers for generating thermal energy to be used to eject liquid for ejecting liquid from said nozzles (Figure 14); and

- a lid (DK) for covering said liquid ejection section adapted to cover all or part of said information recording body (CS) (Figure 34).

However, Ayata et al does not disclose an information recording body arranged at the liquid ejection section and/or the liquid supply member of the liquid supply section (Figure 12B) and an information reading device adapted to read information recorded in the information recording body.

Nevertheless, Siwinski et al suggests in Figures 1-2 a printing device comprising an information recording body (55a-55d, Figure 2) arranged at the liquid ejection section and/or the liquid supply member of the liquid supply section (14a-14d) and an information reading device (50) adapted to read information recorded in the information recording body (55a-55d) for wirelessly sensing data uniquely associated with cartridge loaded into the printer, see lines 40-60, column 3.

It would have been obvious to a person having skill in the at the time the invention was made to employ the information recorded body and the reading device as suggested by Siwinski et al in the device of Ayata et al for the purpose of wirelessly sensing data uniquely associated with cartridge loaded into the printer.

Claims 1-5,7-9, 11-17, 20-23 and 25 are rejected under 35 USC 103 (a) as being unpatentable over Ayata et al. (US Pat. 4,463,359) in view of Hirota (US 6,053,597).

Note: The method steps are inherently taught in the apparatus device/limitations in the rejections as follow:

Ayata et al. disclose in Figures 1, 12A-12B, 14-17, 19-21, 33-35 an ink jet printer comprising:

- a liquid ejection section having a plurality of sets of a liquid ejecting nozzle (OF, Figures 1 and 12B) adapted to eject liquid onto a medium (PP) (Figures 1 and 12B);

- a liquid containing section (JB1-JB9) communicating with the liquid ejecting nozzle and a supply port (IS) for supplying liquid to the liquid containing section (JB1-JB9) (Figures 12B, 15-17 and 20);

- a liquid supply section (IT, OP) having a liquid supply member (IT) arranged therein to store liquid to be applied and adapted to supply liquid to said liquid containing sections (JB1-JB9) by way of the supply ports (IS) (Figures 12B, 15-17 and 20);

- wherein said liquid supply section (IT, OP) has a plurality of syringes (OP1-OPn) and a plurality of drive sections (D1-D56) (Figures 20-21);

- wherein the supply ports (IS) of said liquid ejection section are arranged on a plane (Figures 14-15 and 17);

- wherein said plurality of syringes (OP1-Opn) of the liquid supply section and said plurality of supply ports (IS) of the liquid ejection section are arranged in rows and columns and the pitch of arrangement of said plurality of syringes and that of said plurality of supply ports correspond to each other (Figures 14-7);

- wherein said liquid supply member (IT) comprises a plurality of well plates (ITC, ITM, ITY), each carrying a plurality of wells formed therein, that can store different types (cyan, magenta, yellow) of liquid (Figures 12A-12B);

- wherein said liquid containing sections (JB1-JB9) and said nozzles of the liquid ejection section are integrally formed and said plurality of sets are partly of wells formed therein, that can store different types of liquid and each of replaceable (Figures 14-17);

- means (CC) for controlling the amount of liquid remaining in said liquid containing sections;

- wherein said information recording body (CS) has bar codes (Figure 12B);

- wherein said liquid ejection section (LZP) has an ink-jet application means (H1-H7) and/or electrothermal transducers for generating thermal energy to be used to eject liquid for ejecting liquid from said nozzles (Figure 14);

- a lid (DK) for covering said liquid ejection section adapted to cover all or part of said information recording body (CS) (Figure 34).

However, Ayata et al does not disclose an information recording body arranged at the liquid ejection section and/or the liquid supply member of the liquid supply section (Figure 12B) and an information reading device adapted to read information recorded in the information recording body.

Nevertheless, Hirota suggests in Figures 2-3 a printing device comprising an information recording body (7) attached to an ink cartridge head (4) and a reading device (8) for automatically changing a mode of recording operation to fit to a newly installed recording head unit, see lines 29-34, column 2.

It would have been obvious to a person having skill in the at the time the invention was made to employ the information recorded body and the reading device as suggested by Hirota in the device of Ayata et al for the purpose of automatically changing a mode of recording operation to fit to a newly installed recording head unit.

Claims 10 and 24 are rejected under 35 USC 103 (a) as being unpatentable over by Ayata et al. (US Pat. 4,463,359) in view of Siwinski et al (US 6,938,976) or Hirota (US 6,053,597).

Ayata et al. in view of Siwinski et al or Hirota disclose the basic features of the claimed invention was stated above but do not disclose that the liquid is ejected from ejection ports by utilizing film boiling produced by liquid due to thermal energy generated by said electrothermal transducers is seen as a design expedient for an engineer depending upon a particular

environment and the applications in which the film boiling produced by liquid are to be used in the ink jet printing head for the purpose of ejecting the liquid from nozzles of the head. It is notoriously well known in the art that the film boiling produced by liquid due to thermal energy generated by said electrothermal transducers are widely used in the ink jet printing head would be obvious to a person having ordinary skill in the art at the time of the invention.

Response to Applicant's Arguments

The applicant's arguments with respect to the prior art rejection have been carefully considered and have been traversed in view of the new grounds of rejection over Siwinski et al. and Hirota references.

Allowable Subject Matter

Claims 6 and 18-19 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because the prior art references in the record fail to teach or suggest a liquid applicator comprising an information recording body that contains at least information indicating a liquid supplying side, information specifying a region for the liquid containing sections and information indicating the time limit of use and the authorized number of times of supply of liquid contained in said liquid supply member in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Monday to Friday from 9:00 A.M.to 5:30 P.M..
The fax number of this Group 2861 is (571) 273-8300.

ANH T.N. VO
PRIMARY EXAMINER
08/28/07